

CLAIMS

- 5 1. The use of a fragment consisting of the PIR domain
or the PIR-SH2 domain of a protein of the family
of Grb7 proteins, as a tool for screening for
molecules intended for treating diseases involving
insulin.
- 10 2. The use as claimed in claim 1, characterized in
that said fragment is selected from the group
consisting of the sequences SEQ ID NO: 1-28.
- 15 3. A method for detecting molecules capable of
modulating the tyrosine kinase activity of the
insulin receptor, characterized in that it
comprises:
- 20 a) bringing the activated insulin receptor into
contact with a fragment consisting of the PIR
domain or the PIR-SH2 domain of a protein of the
family of Grb7 proteins, and the molecule to be
tested, under conditions which allow binding of
25 said fragment to said receptor,
- b) adding a tyrosine kinase substrate,
- c) measuring the tyrosine kinase activity, and
- 30 d) determining the modulation of the tyrosine
kinase activity by comparison with a control
consisting of the activated insulin receptor and
said fragment.
- 35 4. The method as claimed in claim 3, characterized in
that said fragment is selected from the group
consisting of SEQ ID NO: 1 to SEQ ID NO: 28.

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5. The method as claimed in claim 3 or claim 4, characterized in that, prior to step a), a preselection of the molecules capable of modulating the interactions of a fragment consisting of the PIR domain or the PIR-SH2 domain of a protein of the family of Grb7 proteins, with the insulin receptor, is carried out by:
- 1) immobilizing said fragment on a solid support,
 - 2) bringing the molecule to be tested into contact with said fragment, then
 - 3) incubating with the labeled and pre-activated insulin receptor, under conditions which allow binding of said receptor to said fragment,
 - 4) separating said labeled receptor not retained on the support,
 - 5) detecting the complex possibly formed between said fragment and the activated insulin receptor, and
 - 6) determining the effect of the molecule by comparison with a control comprising said fragment and the insulin receptor.
6. The use of a molecule capable of binding to a fragment consisting of the PIR domain or the PIR-SH2 domain of a protein of the family of Grb7 proteins, and of inhibiting the tyrosine kinase activity of the insulin receptor, for manufacturing a medicinal product which can be used in the treatment of diseases involving insulin.

- add A_1

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